

CCD testing plan for November

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- **Data taking**
- **Data Analysis**
- **Packaging**

Data Taking Tools

- Three fully instrumented test stations:
 - Cube #0: manual fill
 - Cube #1: auto fill ($T = 150\text{ K}$ short stinger)
 - Cube #2: auto fill(all of them have $< 10\text{ e noise}$)
- Multi CCD camera
- Two Monsoon systems
- Two PAN computers

FE at Sidet in November

- FE group (Terri, Walter and visitors):
 1. work on the **multiCCD**. We now have great performance with 1 CCD, next week will be ready to install another device.
 2. **Test in cubes** to see if we can improve their performance using the knowledge gained during the multiCCD effort.
 3. Visit from Barcelona with new transition board, **possible test in cubes**.

Remainder: MultiCCD cabling for Monsoon does not work in Cubes.

This means 1 Monsoon system is busy in the MultiCCD camera (1). At the point when FE group decides to work on the cubes (2,3) they can use the same system.

People running CCD tests

- Kevin Kuk:
 - 100% of his time in the lab
 - Has successfully run all our tests (QE vs wavelength, QE vs temp, dark vs temp, “full test”, diffusion, stability)
 - Can change CCDs
 - Understands the setup
- Jorge Montes:
 - probably back next week
 - 1-2 hours a day
 - Can do some of the tests and is learning the rest
- Vic Scarpine:
 - Mainly interested in QE measurements (absolute)
- Stefan Grünendahl:
 - Has to decide how much to get involve in CCD testing.

CCD testing rate

Last week (23-27 Oct):

- Full test pb-22-04
- QE vs lambda pb-22-04
- Erase pb-22-04
- Stability pb-22-04
- Full test pf-24-03
- QE vs lambda pf-24-03
- Full test pf-24-04

Summary:

- 3 full tests
- 4 detailed studies

This was a good week, 1 Monsoon system + 3 cubes used for these jobs. Same tools available during most of November, until FE group decides to work on a cube.

Goals for next month

- Test newly packaged devices
- Continue characterization for old devices
- Absolute QE (Vic)
- Whenever necessary help FE group

Proposed CCD testing plan

Cubes #0 and #2 (Monsoon #1 - snowstorm):

- If new CCD is ready test it:
 - full test
 - If thinned and no light bulbs
 - darks vs temp
 - If back illuminated
 - QE vs temp
 - QE vs dark
 - diffusion (double slit)
- If no new device, get one from old device list and test as new
(We have 2 new pb devices and a long list of old not fully tested CCDs.
Hopefully during November we will test another s1)

Whenever we get the modified autofill LN2 reservoir ready, install on cube #0

Cube #1:

- Have available for Vic absolute QE studies
- Available for FE group later in the month

MultiCCD (Monsoon#2 - typhoon):

- FE work

Data Analysis

- The data analysis will be a bit complicated during November

Plan:

- (*)Julia 1 report a week
- (*)Donna 1-2 reports a week (almost ready)
- Vic will do the QE analysis (he also knows how to do most of the other analysis, but has little time available)
- Derek is doing pixel correlation analysis an has limited time available

Priority for the reports should be: s1, pb-22- , all others

We have not produced reports at this rate yet, so probably **things will get delayed** here. Diffusion and dark current results will probably be delayed.

Nobody is yet trained to do the defects analysis that was implemented by Sarah during the summer. This will also be delayed.

Things are in place to ramp up on analysis, but it will take time until everyone involved gets more experience.

Keeping the disks clean will be a challenge. I will talk with Liz about help in this area.

Packaging

- Science package is our priority (will send list of candidates to Greg and Tom).
- Two weeks from now we should choose two 2x2 devices to make another pair of pb (choice will depend on the results we get). These devices allow us to learn a lot without sacrificing any good 2x4 CCDs.

Summary

- Cube 0 + Cube 2 + Monsoon#1:
Operated by K. Kuk and J. Montes to test newly packaged devices and old devices not fully tested.

Final product (in case everything works perfectly):

- 8 CCD with “full test” (old devices)
 - 4 CCD with “full test”+detailed studies (pb-22-05, pb-22-06, **s1-02, pb-22-07**)
- Cube 1: Vic absolute QE calibration, later in the month FE group
 - MultiCCD + Monsoon#2 : FE group

